



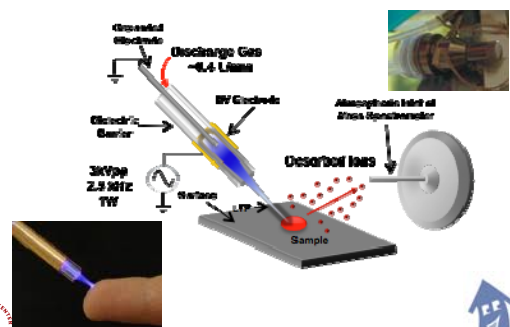


# WP1.1 Chemistry

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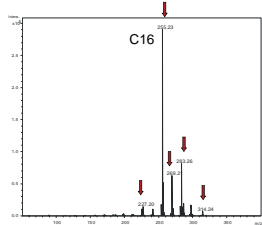
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## Low Temperature Plasma (LTP) -MS of PM<sub>2.5</sub> filters

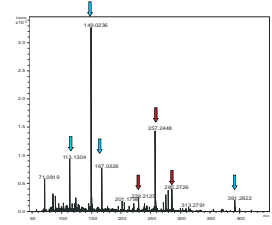
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### Negative mode: Saturated fatty acids





CCCCCCCCCCCCCCCC(=O)O  
Sapienic acid (C-16, cis-6-hexadecenoic acid)

### Positive mode: Phthalates and saturated fatty acids

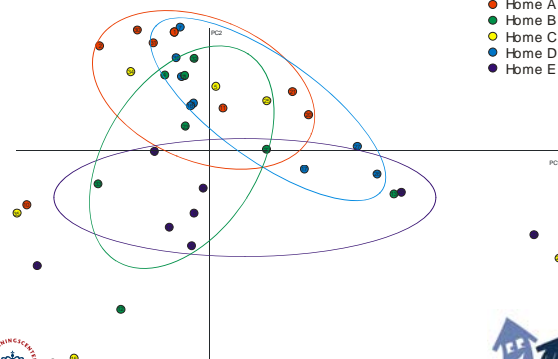


–No Unsaturated fatty acids are found.  
–Hydrogenation in the dust or during analysis?






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## PCA of MS-data in negative mode

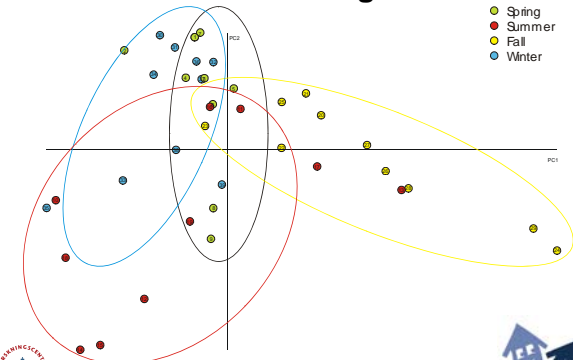


LTP i negativ ion mode






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## PCA of MS-data in negative mode




LTP i negativ ion mode


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## Sampling methods


**Airborne**



Tenax tube  
(Air)




Window wipes




Cyclone  
(PM<sub>2.5</sub>)


**Settled dust**





Dustfall collector (DFC)



Electrostatic dustfall collector (EDC)



Vacuum cleaner

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## Treating GC-MS data

- Building a "database"
  - Compound list for each measurement method/home/campaign (6x5x5)
  - PCA analysis for comparison of methods and season
  - Easier data treatment of other samples
- Two approaches: Searching for target compounds or peak by peak and comparison to NIST



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## Target compounds?

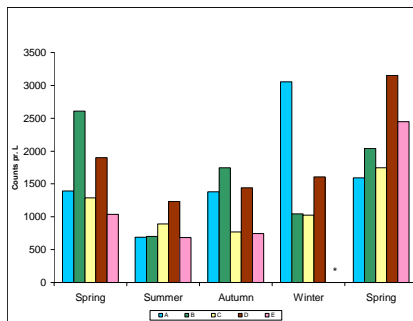
- Terpenes and their oxidation products
- Phthalates
- PCB
- PAH
- Brominated flame retardants
- Texanol
- Adipates
- (Nicotine)
- .....



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## Average number of particles (0.75-15 µm)

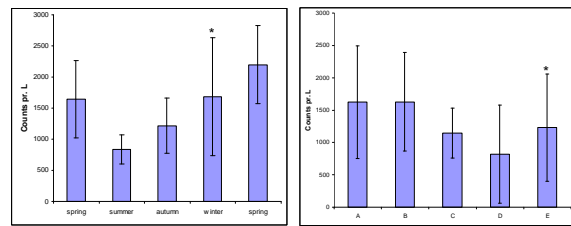


\* One datapoint missing

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## Average number of particles (0.75-15 µm)

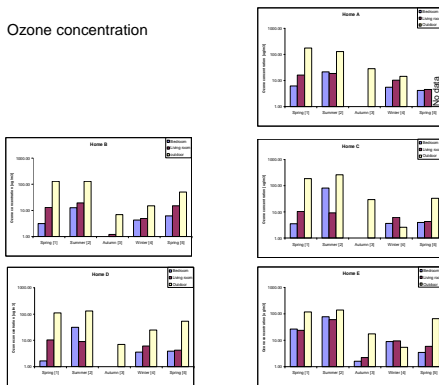


\* One datapoint missing

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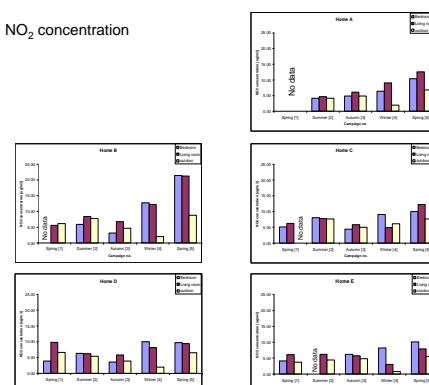
## Ozone concentration



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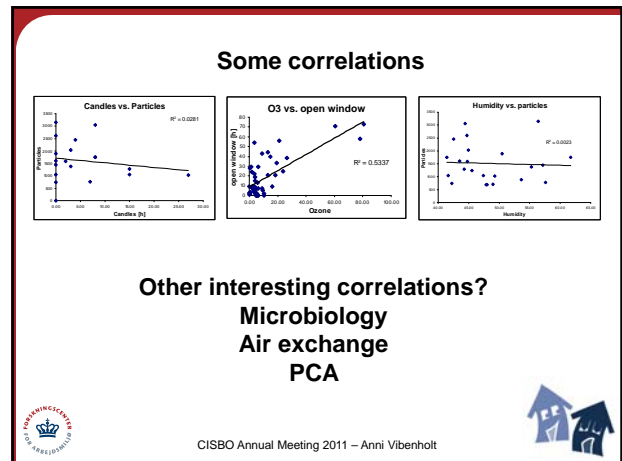
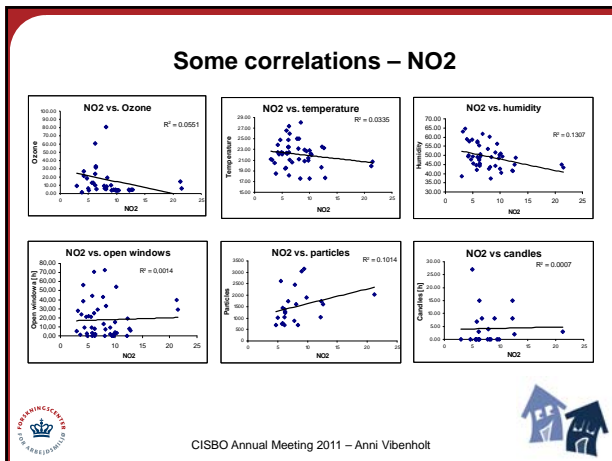


## NO<sub>2</sub> concentration



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## Thank you for your attention

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